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MECHANISATION AND LABOUR UTILISATION THE CASE OF TRADITIONAL WORKERS IN THE LEATHER INDUSTRY OF TAMIL NADU

P. USHA

MADRAS INSTITUTE OF DEVELOPMENT STUDIES
79, SECOND MAIN ROAD, GANDHINAGAR, ADYAR
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MECHANISATION AND LABOUR UTILISATION

THE CASE OF TRADITIONAL WORKERS IN THE LEATHER INDUSTRY OF TAMIL NADU *

P.USHA

I

The paper is about the effect of an Export Trade Control Order in August 1973 - which attempted to encourage the exports of high value added products of finished leather (FL) and leather products by restricting the exports of semi-finished leather (SFL) - on the composition of labour in the tanning and finishing industry in Tamil Nadu (TN). The paper is based on discussions with groups of labourers, managements, workers' and managements' associations and from material collected during field surveys of tanneries in the North Arcot district of Tamil Nadu. The article also draws evidence from the 1961 Census of India and Annual survey of Industries.

The tanning and finishing industry in TN provided employment to 15592 persons in registered factories in 1978-79.[1] The industry exported Rs.2575 million worth of leather and leather products in 1978-79 which accounted for 70% of all leather exports from India in that year.[2] The industry is concentrated in a few districts of Tamil Nadu, namely Chingleput, North Arcot, Madurai, Coimbatore and Tiruchirapalli. North Arcot accounted for 51% of the labour force in registered factories, Chingleput 23% and the rest 26%.[3] In North Arcot itself the industry is concentrated in a few locations like Vaniyambadi, Ambur, Pernambut, Gudiyatham, Ranipet, Melvisharam, Arcot and Vellore. 90% of the entrepreneurs in the industry are Muslims.

Until the early seventies, the industry was highly labour intensive and was producing predominantly SFL for Export. The last few years of the decade of the seventies, however, witnessed capital intensification of the tanning industry. Movement from labour intensiveness resulted both from substitution of capital for labour in the tanning stage and installation of machines in the next i.e., finishing stage. An important development during this period was

* I am grateful to Dr.C.T.Kurien, Mr. S.Guhan and Dr.John Harriss for their comments.

the gaining of the momentum of the production of FL for exports.

Initially, when the product was mainly SFL, the principal source of labour for this industry was the workers from the traditional leather working scheduled castes of Arunthathiar, Chakkiliyan and a group of Adi Dravidars (hereafter leather workers from these scheduled workers are called the traditional workers) and Muslims belonging to poorer sections. But later with the extension of production to finishing, Muslim workers on a larger scale and workers from other castes also entered the labour force of tanneries and finishing plants. The composition of labour which included more than 75% of the traditional workers in the early sixties, included approximately 60-66% of traditional workers only in the late seventies.

II

To understand the dynamics of the whole process, a certain grasp of the production processes and of the background of the labour force in the industry is essential. Before proceeding it should be cautioned that the paper considers the labour force engaged only in the export sector and in the registered factory sector. The registered factory sector accounts for 72% of all the employment in the leather industry[4] and nearly two thirds of the production is exported.[5]

There are three stages of production in the industry - from raw to semi finished leather known as the tanning stage, from SFL to FL, the finishing stage and from FL to leather products, the products manufacturing stage. There are eight pre-tanning processes - soaking, paste liming, dehairing, lining, fleshing, sorting, deliming and scudding. Soaking and liming can be done in power operated drums or manual operated pits. Paste liming and sorting should be done by labourers only. Dehairing, fleshing and scudding can be executed by either by machines or by human hands. Then the leather is tanned. After tanning the leather is set and then dried. Setting can be done by a machine or a manual labourer.

For Finishing there are 8 processes and all of them could be carried out only on machines. The operations are dyeing (done in drums), setting (slightly different from the setting after tanning and done only on a machine), drying, staking, buffing, and brushing,

colour coating/spraying, ironing/embossing and measuring.

Processes vary with different types of leather but in batch productions, the processes are broadly similar. The processes described can be combined, repeated, omitted etc to suit quality requirements of the final products.[6]

III

Tannery work dealing with the hides/skins of dead animals - being obnoxious and wet (in some sections) and the physical environment being dusty and stinking (in some other sections), initially only the workers from the three main traditional leather working castes in Tamil Nadu - Arunthathiars, Chackiliyans and a group of Adi Dravidars[7] - and the Muslims belonging to poorer sections offered themselves for work in this industry.[8] According to the 1961 census, out of 27183 workers coming under the category of Tanners, fell mongers, pelt dressers, leather cutters, sewers etc. (industry code No.853 and 729) in the general population, 22558 belong to the scheduled castes, the latter accounting for 84% of all workers in the two industries. If only tanners, fell mongers and pelt dressers (code No.853) are considered, the scheduled caste workers number 9720 persons against 12742 persons in the general population. All scheduled caste workers account for 76% and the workers from the three traditional leather working castes accounted for 64% of all the labourers engaged in this industry.

There was a division of work among the traditional workers and the Muslims. While the former concentrated in the preliminary process, where strenuous labour and working in pits of lime was called for, the latter engaged themselves in the processes that did not involve wet work,[9] say trimming, packing, grading, weighing etc. Even the traditional workers offered themselves for work only when they could not find alternate agricultural opportunities.[10]

The workers in the tanning industry can be grouped into four categories on the basis of the tasks performed by them - hand workers, unskilled workers, machine operators and helpers. While hand workers and helpers came from traditional castes, unskilled workers were mainly Muslims. Machine operators came from diverse castes and

religions including Muslim workers and traditional workers. In the pre seventy period, when the industry was producing mostly SFL using labour intensive methods, skilled hand workers formed the majority of the tannery work force. Since they came from traditional leather working castes, the importance of traditional workers during this period can be easily appreciated. On the other hand, unskilled workers were comparatively a minor group and the presence of machine operators and their helpers was limited by the availability of negligible machinery in the industry.

Except for a few tanneries (which included small as well as large sized tanneries) the rest of the managements recruited their labour on a daily basis, on the strength of their previous experience in the same or other tanneries. The system of daily recruitment and daily payment of wages was highly advantageous to the management because it provided ample scope to vary the size of employment of workers depending on the export orders at hand. It should be mentioned here that for workers the Government order also specifies the minimum wages on a daily basis, where as for the administrative personnel like clerks, supervisors etc., the order specifies minimum monthly salaries. Wages are paid on piece basis for the hand workers and unskilled workers and on time basis for others.

IV

In 1972, there was a boom in the export market and it led to unprecedentedly high demand and high prices for Indian SFL. Total earnings from leather exports increased from Rs.102 crores in 1971-72 to Rs.171 crores in 1972-73. This encouraged the Indian Government to go in for the export of better processed FL and leather products on a large scale, restricting the exports of SFL. From 1973 onwards, exports of SFL was brought under quota as part of a long term plan to reduce SFL exports and increase that of FL and products.[11]

Before the 1973 State intervention, the technology employed in the industry was highly labour intensive, involving only Rs.2521 of fixed capital per labourer in 1970. As mentioned before, the industry then produced mainly tanned leather for export. But with the taking up of finishing, the degree of capital intensity in the industry increased significantly with each labourer working with Rs. 6778 of

fixed capital (at 1971 prices) in 1978-79, thereby exhibiting an annual compound growth rate of 13.16% between 1970 and 1978-79.[12]

The tanneries have intensified the use of capital not only by installing finishing machines but also by substituting machinery for labour in the tanning stage, for the pre tanning processes. The choice for a capital intensive technology in the tanning stage is disturbing to notice because in the finishing stage there is no choice but to use machines; for the pre tanning processes however an alternative between hand and machine processing techniques was available. Secondly, unlike finishing where the newly installed machines absorbed labour, the pre tanning machines that were introduced displaced labour that was already employed in the industry.

The choice for a capital intensive technology for the pre tanning processes can, however, be explained mainly by the need to reduce the length of the production cycle in producing the intermediate product. Production of the intermediate product (crust leather) by employing manual workers extensively consumed about a month. Given that finishing takes 20 more days, extension of production to FL, retaining labour intensive production process for SFL meant that (a) working capital will be locked up for twice the original period (when only SFL was produced) and (b) the length of production of the intermediate product being longer than that of FL from SFL, some of the latter capacity will be under-utilised. Hence the length of the production cycle has to be reduced, especially that of the intermediate stage to less than 20 days by the use of capital intensive processes, to continue efficiently in the industry.

Further the capacity of a manual labourer and a machine per shift in the pre tanning operations differed widely. The capacity of a labourer is 150-200 skins while a machine with an operator and two helpers can turn out 1600-2500 skins per 8 hour shift, depending on the experience of the machine operator. By installing machines the human requirement is reduced by more than 50 per cent in each operation. In other words, instead of 8 workers only 3 workers are employed for an operation for turning out 1600-2500 skins per shift.

Consequent to substituting machinery for labour the saving in labour costs in each operation for instance say fleshing is Rs.22,750.[13]

Given that a hand worker can deflesh 200 skins per shift 8 workers are required for turning out 1600 skins. Since each worker is paid Rs.12 on an average the 8 workers are paid Rs.96 per shift. The wage cost per year is Rs.33,600. In the situation where machinery replaces human labour, on one machine an operator can deflesh 1600 skins per shift with the assistance of two helpers. With each operator being paid Rs.13 and each helper Rs.9 on an average per shift total annual wage cost works out to Rs.10850. The wage saving is Rs.33,600 minus Rs.10,850 which is equal to Rs.22,750. Considering that repairs, interest and maintenance costs would account for Rs.2750 the net wage saving is Rs.20,000. The amount invested on the fleshing machine which costs Rs.1 lakh could be recovered in 5 years.

Finally the management thinking has also been a factor in the substitution of capital for labour, in the pre tanning processes. The share of wages and salaries in value added decreased marginally from 43.96 per cent in 1961 to 42.27 per cent in 1971.[14] Costs of labour as a proportion of total costs of production increased only marginally from 6.38 per cent in 1962 to 6.53 per cent in 1970.[15] Hence apparently labour costs in total production costs did not increase. The desire to reduce even the stable costs emanates from the need to decrease the constant element attached to the payment to permanent labour as well as due to the impossibility of reducing the constant raw material cost (which accounted for 50-75 per cent throughout the sixties and seventies). Though the traditional workers skilled in hand work and who were important in turning out a quality product in the labour intensive industry, were not given a letter of permanency and were paid on a daily basis, they were understood to be permanent due to their long years of service. Under such circumstances the factor payment to these workers were nearly constant. Hence the managements' desire to reduce the labour force and thereby the constant portion of the variable costs can be achieved only by substituting machinery for manual workers.

All the factors discussed above like the need to reduce the length of the production cycle for SFL production, the possibility of saving labour costs etc. were instrumental for capital being substituted for labour in the pre tanning processes. As a result

of this capital intensification 1842 workers were thrown out from the pre tanning processes. Employment in the registered factories decreased from 11038 in 1971 to 9196 in 1973-74.[16] As the labour employed in these processes were mostly traditional workers they were the affected lot. In other words, the substitution of capital for labour in the pre tanning processes led to the traditional workers losing their employment.

V

When production was extended to finishing in 1974-75, the tanneries of course employed additional labourers to operate the machines and to help the operators. Total employment moved up to 11160 in 1974-75 (from 9196 in 1973-74).

The labour absorbed in finishing however included only an estimated 50 per cent of traditional workers. This is because for each of the machines involved in finishing (except for some machines like glazing and staking where the ratio is only 1:1), the ratio of machine operators to helpers is 1:2. But this ratio will prevail only if the machines are operated at full capacity. Finishing was forced on the industry by the State policy only in 1973-74. The first spurt in investment for finishing and the subsequent installation of finishing machines occurred in 1974-75. In the first year of their operation, the machines cannot be expected to be utilised to their full capacity. Given this, the firms also will not incur expenses on two helpers when one is sufficient to help the operator. Hence only one helper was employed per operator. In absolute numbers it is estimated that 982 labourers were absorbed in 1974-75 to be employed as helpers. See the table.

A second spurt in investment as well as employment took place in 1976-77. Fixed assets per labourer increased to Rs.6097

Table showing total and incremental investment and employment during 1970 - 1978-79

Years	Fixed Investment (Net of depreciation and deflated) Rs. Mlns.		Employment (Nos.)	
	Total	Incremental	Total	Incremental
1970	2.954	0.0[illegible]	11038*	-
1973-74	3.007	0.053	9196	-1842
1974-75	4.815	1.808	11160	1964
1975-76	5.728	0.913	11104	- 56
1976-77	9.700	3.972	15905	4801
1977-78	N.A		N.A	-
1978-79	10.568	0.868	15592	- 313

Source : CSO, ASI for 1970 and for other years Department of Statistics, Madras

Note : * Data refers to 1971

from Rs.4314 in 1974-75 both at 1971 prices. Total employment moved upto 15905 persons. Again by the same argument, though 4801 additional labourers were employed, only 50% were engaged as helpers. Total employment remained approximately the same till 1978-79.

The helpers were mostly the traditional workers, who were thrown out due to mechanisation of the pre tanning processes and were reabsorbed to be employed as helpers to the operators of finishing machines.[17] Interestingly they were mostly younger workers. On the other hand, the traditional workers who were not re-employed in the finishing stage were in the age group of 40 and above. The mechanised finishing units needed either machine operators or helpers. The older workers were neither trained nor willing to get trained by working as helpers, customarily for 3-5 years. These older workers, inspite of doing obnoxious hand work, took pride in their skill and in the experience they have acquired in their job 20-30 years. Hence they were neither willing to be helper and learn to operate

the machines nor willing to accept a lower wage as a helper (Rs.7-9) than as a skilled worker (Rs.11-13). They preferred to be under employed by working in a few tanneries that have not mechanised and which continue to employ hand workers. Thus a section of traditional workers voluntarily bowed out of the mechanised and finishing industry and thereby made their dismissal as well as the entry of other workers easy. The ultimate impact was on the proportion of traditional workers in the industry which exhibited a tendency to decline.

However, there was not an absolute decrease in the employment of traditional workers. Labourers who were thrown out as a result of the mechanisation of pre tanning process, were mostly reabsorbed when the industry extended production to finishing.

VI

It is estimated that nearly 3300 labourers[18] from other castes and from among the Muslims entered the industry in the post intervention period mostly as machine operators. The presence of workers from other Hindu castes is less significant. But the number of Muslim workers entering the industry has been swelling considerably. Some were trained and some have been apprentices in the few tanneries that started finishing in the late sixties or early seventies, some were I.T.I. trained. But most of them were raw hands. They picked up the job only by the trial and error method.

When other workers who had no training were employed in the mechanised industry the traditional workers are denied the opportunity. There can be no other reason except as Chatterton pointed out the opinion of entrepreneurs. 'The opinion is generally held among the merchants of Madras engaged in the export trade that no improvements can be effected in the tanning process now in use because of the difficulty of getting workmen (traditional labour) sufficiently skilled and intelligent to carry them out'. If that was the managements' opinion about tanning where the traditional workers are trained from generation to generation there cannot be two opinions about the managements' willingness for engaging traditional labour in sophisticated finishing processes. Employment was offered to Muslim workers and slightly better educated Hindu workers.

The industry that has been depised all along by workers from other castes attracted them in the seventies. The reasons are obvious. In a developing economy that is characterised by high rates of unemployment, the urgent need to enter into some remunerative employment should be evident. The leather industry offers employment opportunities and in fact in the absence of alternative employment opportunities, a job in the tanning and finishing industry has been much more sought after than beedi rolling[19] or other employment like jutka driving in the informal sector in North Arcot.

Regarding the Muslim workers, they were employed only in the peripheral operations in the sixties. After the taking up of finishing, they moved into the industry for finishing operations in substantial numbers. The fact that 90 per cent of the entrepreneurs in the industry are Muslims and that it is dominated by partnership concerns, where the entrepreneur still takes a personal interest in labour recruitment, heralded the entry of a large number of Muslim workers. They are prefered because they are considered to be less militant than the traditional workers. Secondly they accept a lower wage than that agreed to mutually by Trade Union and Management. This is mostly because though there were poor Muslims employed in the industry in the sixties, they were mostly engaged in peripheral operations. The entry of Muslim workers on a large scale is a recent phenomenon and is consequent to the taking up of finishing. The Muslim workers who entered were first generation workers and hence considered raw hands, learning the job. Hence they accepted a lower wage than traditional workers.

It is also reasonable/to argue that the entrepreneurs employed the traditional workers as long as the latter were inevitable to the industry. Once it is possible to do away with the traditional workers, the entrepreneurs can be expected to use it at the first opportunity.

The entry of new workers was also speeded up by the fact that with the abolition of manual handling operations the work in the tanneries became much neater and less strenuous. The impact of this was felt not only in the finishing stages but also in the pre tanning processes resulting in the entry of other workers in the latter also

which was once a monopoly of traditional workers.

In general capital intensification and related factors paved the way for the entrance of Muslim workers en masse and that from other castes and the consequent reduction of the proportion of traditional workers in the industry. The proportion of traditional workers in individual factories varies with the degree of capital intensity, the latter varying with respect to size of factories.[20] For instance, small factories still maintain 75 per cent of traditional workers. On the other hand in the large factories, traditional workers form approximately 50 per cent of the work force because these factories have mechanised to a greater degree.

In 1978-79 large factories accounted for 55 per cent and small factories for 45 per cent of all the labour employed in the industry. In large factories 4302 traditional labourers are employed since they accounted for 50 per cent of the total work force of 8605 persons (in the large factories). In the small factories, 5240 traditional labourers are employed as they account for 75 per cent of the total work force of 6987 persons (in the small factories). Traditional workers numbered 9542 persons which is 61 per cent of the total work force of 15592 in the industry in 1978-79.

This estimate is reinforced by the exposition in section V. In 1973-74, total workforce was 9196 and (as in 1961 because of non-entry of new labour) 76 per cent of this i.e., 6989 was traditional labour. In 1974-75, an additional 982 traditional labourers were employed. Further in 1976-77 traditional workers numbering 2373 were absorbed. In 1976-77 totally 10,344 traditional labour were employed in the industry. Since total employment remained stable till 1978-79, the number of traditional labour, also remained the same. They formed 66 per cent of the total work force of 15592 person of the industry in 1978-79.

Hence on the basis of the above exposition, it is estimated that in aggregate the proportion of traditional workers has come down from 76 per cent in 1961 to 60-66 per cent in 1978-79.

VII

Given the fact that the women workers come only from the traditional leather working castes, even if one includes the female

employment in the unorganised sector of the industry also, the fall in the proportion of the traditional workers in the industry is still significant.

There is a clear division of work between male and female workers. Women are primarily employed for two set of jobs. (1) Picking, dusting and drying wool which has to be done mostly outside the factory premises and (2) breaking myrobalan nuts (an essential ingredient in tanning), sweeping, washing, collecting water etc.

In Vaniyambadi in North Arcot sheep skins are tanned and finished extensively. Sheep hair is valuable as wool and hence almost all the tanneries reclaim the wool.[21] Therefore in Vaniyambadi women are employed for both the set of jobs. On the other hand, in places, where goat skins are tanned goat hair is not so valuable and is either reclaimed or burnt by sulphide. Compared to sheep skins reclamation of hair from goat skins is much less. Hence in places where mostly goat skins are tanned, women are employed mainly for the odd jobs mentioned in the second category above. Ambur is, however, an exception. Here a few large tanneries employ women for the pre tanning process of soaking the skins. But they form hardly one-tenth of the total work force in these tanneries.

In 1980, in aggregate, the share of women in the total work force has decreased from 5.89 per cent in 1972 to 5.10 per cent.[22] But it is worth while mentioning that except for women working in the pre tanning process in Ambur and some employed for the second set of jobs, the rest are all in the unorganised sector. They are not part of the work force reported to the factory Inspector.[23] If, however, we include the women employed in all the jobs in the tanneries, the proportion of traditional workers will move up marginally. It is estimated that 188 women are employed in the unorganised sector and as a result the proportion of traditional workers increases by 1 per cent.[24]

VIII

The future for the traditional workers does not seem to be very optimistic in the industry. The industry has three trade unions worth mentioning - the North Arcot Tannery Workers Union, a CITU and an AITUC backed Union. None of the unions, however, have influenced the employers to maintain the status quo and employ hand workers

extensively. There is no indicator that they will do so in future.

Secondly, the development in particular areas of concentration signify a movement away from the employment of traditional workers. Ambur, Ranipet in North Arcot and Chingleput are areas of concentration of finishing plants. The tanneries in Ambur and Chingleput are mostly medium and large sized. Some of them use chrome method of tanning. The larger the tanneries, the greater the degree of mechanisation and larger the scope for the entry of other workers. Further more, when chrome tanning method is used, there is very little need for the skill and experience of hand workers though traditional labour will be employed (but comparatively less number than the vegetable tanning method) for the pre tanning processes. It will not be out of place to point out that traditional labour will be required for the obnoxious pre tanning processes. Except for sporadic presence of other labourers, the pre tanning processes are still a monopoly of traditional labour. But there is no scope for expanding or developing it. Hence we consider only the labour required for finishing.

In Ranipet finishing is largely done in SIDCO[1] and SIPCOT[2] industrial estates. These are post 1973 phenomenon. These factories are permitted only to finish purchased tanned leather and not tan the raw material. In other words they must start from the second stage skipping the first stage of production for reasons of environmental pollution. Hence for finishing, any labour that was available was employed. In fact the factories-two in number-that were interviewed did not employ even one traditional labourer.

Hence with the advance of finishing by leaps and bounds the qualitative and quantitative significance of traditional labour is bound to decrease in future, though we have seen only a relative downward movement of the share of traditional labour. The decreasing

1. Small Industries Development Corporation

2. State Industries Promotion Corporation of Tamil Nadu

proportion of traditional labour has not meant an absolute decrease in the employment of traditional labour. The occurence of decreasing proportion is not alarming because the industry is expanding. But the growth of the industry will get stunted once it has equipped itself with most of the finishing facilities. The growth of the industry is restricted also because the availability of raw material is limited by the livestock population and import of raw material is not popular. With the growth in fixed assets at 13 per cent per annum, the limit to expansion is not far to see. In that case, the industry will not absorb labour as rapidly as it is doing now. Ad a result increasingly more traditional workers will not be employed. Consequently the employment of traditional labour in absolute terms also will decrease. An industry that was once a haven for traditional workers will with modernisation and vertical integration cease to be one.

The decreasing proportion of traditional labour has more implications. With the entry of other workers who are on par with management in terms of their religion, are on a higher social level and are involved in better jobs (within tanneries) the labour force of the tanneries will be highly segmented with other workers forming one group and the traditional workers the other group. Consequent to such segmentation the benefits of improvement of working conditions in the industry will not reach the traditional labour.

Further more given that (1) finishing processes do not specifically require traditional labour, their willingness to work with dead skins/hides, their experience, their skill etc. (2) finishing processes are not as despicable as tanning processes and creates less inhibitions for handling by workers and (3) for various reasons mentioned in the text, Muslim workers are preferred to traditional workers for less strenous processes - the future of the traditional workers is like the writing on the wall.

In the eventuality of the traditional labour being thrown out of the industry, they will not face better employment opportunities than that in the tanneries. While the opportunities available to the traditional labour is also available to a Muslim or a caste Hindu, the vice versa may not be true.

Hence, the decreasing proportion of traditional labour in the

industry seen as a trend towards either stagnant or decreasing absolute numbers portends significant developments which are not in the interests of the increasing employment prospects for traditional labour.

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NOTES

1. Source : Department of Statistics, Madras.
2. Source : Leather Export Promotion Council, Madras
3. Source : Inspectorate of Factories, Madras
4. 1971, Census of India, Series 19-TN Part III B Establishment Tables
5. The ratio of export of SFL to the available raw material is calculated. Source for exports - LEPC, Madras. Availability - Government of India, Directorate of Marketing and Inspection, Report on Marketing of Hides in India, 1972.
6. International Centre for Industrial Studies, Draft-World-Wide study of the Leather and Leather Products Industry, UNIDO, 1977.
7. Government of India, Census of India, 1961, vol.IX, Madras Part.V-A (ii) According to the 1961 census Adi Dravida relate to parayan. They account for 53-23 per cent of all scheduled castes engaged in tanning and currying of hides and skins.

   Chakkiliyans and Arunthathiyars belong to the main caste of Chakkiliyans. They account for 37.71 per cent of all scheduled castes engaged in tanning and currying of hides and skin. (Census of India 1961, vol.IX Madras, Part V-A (i) Scheduled Castes and Scheduled Tribes, Report and Tables p.13.

   According to the North Arcot Manual, Chakkiliyans "are the leather workers of Tamil districts corresponding to the Madigas of the Telugu country. The Chakkiliyans appear to be immigrants from the Telugu or Canarese districts for a very large proportion of them speak Telugu or Canarese though living in the Tamil country. In social position, the Chakkiliyans occupy the lowest rank... The avaram plant (Cassia auriculata) is held in much veneration by them and the tali is tied to a branch of it as a preliminary to marriage".
   Avaram barks are widely used in tanning the leather.
   Regarding Arunthathiars, 'their only tradition refers to Arunthathi, a Madiga Maiden, whom they say, the Rishi Agasthya considered fit to be his wife. Proud of this distinction the cobblers often call themselves Arunthathi's caste'.

   A Stuart, North Arcot District Manual, Madras, Government of Madras, 1894.

8. Alfred Chatterton in his pioneer monograph, Monograph on Tanning and Working in Leather in the Madras Presidency, points out that only native leather workers and poor mohammadens laboured in the Industry

9. Chandrasekhar. S, Economics of Leather Industry with special reference to the Madras Presidency, unpublished thesis submitted for the Degree of Master of Letters of the University of Madras 1940, p.120.
10. A. Chatterton, Op cit p.16-17.
11. Government of India, Ministry of Foreign Trade, E.T.C. Circular No.105/73 dated 7th August 1973.
 The E.T.C. order imposed a quota on the exports of SFL. A cut of 20 per cent on the export of semi finished hides and 10 per cent on semi finished skins on the 1972 level of exports was imposed in 1973-74. These quotas were progressively cut annually from 1976-77 onwards.
12. Fixed capital presented here is net of depreciation. Fixed capital is composed of land and building and plant and machinery. The paper uses the data published by the ASI and the break up between the two components of fixed capital is not available here. The share of plant/machinery in the fixed capital - both gross and net of depreciation-for the firms surveyed is around 66 per cent. Considering that plant and machinery account for 2/3 rds of all fixed capital, and that no other deflator is available and that India is importing leather tanning and finishing machinery, the export price index for leather and textile machinery (with 1971=100) published by the United Nations is used for deflating fixed capital.
13. Here it is assumed that the unit is tanning 1600 skins per shift and it is working only one shift a day and further that the unit is working for 350 days in a year.
14. 1973-74 was a normal export year. Leather exports netted in Rs. 1796.12 mln. Worth of foreign exchange in 1973-74 compared to Rs. 1707.633 mln. in 1972-73.
 In the sixties almost all the fluctuations in employment in the industry was associated with that in exports. See table below. But 1973-74 being a normal export year a decrease in employment occurred. This is only due to a change in the technology involved in production.

Exports and Employment in the Leather Tanning and Finishing Industry

Years	All India Exports of SFL[2] Mln. Rs.		Employment in the Tanning and Finishing Industry in Tamil Nadu	
	Total	Incremental	Total	Incremental
1964-65[1]	323.753		7742	
1965-66[3]	345.681	21.928	8371	629
1966-67	685.480		16516	
1967-68	547.341		8907	
1968-69	718.330	170.989	10348	1441
1969-70	868.430	150.100	11456	1108
1970-71	734.320	- 134.110	10393	-1063
1971-72	865.21	130.890	11038	645

Source : Exports for 1964-65 to 1969-70, Survey of India's Export Potential for Leather and Leather Manufactures, CLRI and Gokhala Institute of Politics and Economics and for 1970-71 and 1971-72, CLRI.

Employment : 1964-65 to 1969-70, NSS, Annual Survey of Industries, Detailed Results and ASI, Census sector Tables. 1970-71 to 1971-72 - Department of Statistics, Madras.

Note : 1. Employment data for 1964-65 and 1965-66 relate to calender year 1964 and 1965 respectively.

2. All India exports of SFL is used because port-wise details of exports are not available for these years. However, since Tamil Nadu accounts for 90 per cent of the SFL exports from India, the use of all India exports of SFL will not be misleading.

3. The 1966 devaluation had a significant impact on exports and employment. Hence it is considered an abnormal year and hence incremental values are not calculated for the years 1966-67 and 1967-68

15. Source : Central Statistical Organisation, Annual Survey of Industries Relevant years.

It is worthwhile to note that the share of wages and salaries in value added decreased from 42.27 per cent in 1971 to 28.55 per cent in 1978-79.

16. Source : CSO, ASI, Relevant years.
17. Of course it is nearly a decade since the first set of traditional workers were absorbed as helpers. During the field survey many traditional workers working as machine operators were met with.
18. The method of estimation is as follows:

    In 1974-75, 50 per cent of additional workers absorbed were other workers. They numbered 982. Again in 1976-77, 50 per cent absorbed were other workers. Then they numbered 2373. Totally 982+2373= 3355 workers from other castes and Muslim workers have been absorbed.

    Since no change in total employment occurred till 1978-79, the number of workers from other castes also must have remained stable.
19. For rolling 1000 beedies a worker is paid Rs.6. A worker can roll 2000 beedies a day. So the total earning is Rs.12. Out of this Rs.8 has to be paid for tobacco, leaves etc. Only Rs.4 remains. This is much lower compared to around Rs.10 earned in tanneries.
20. Large factories correspond to factories in the census sector of ASI and small factories to that in the sample sector.
21. For removing the wool, the women are paid 3-4 paise per skin and a woman can work on 100 skins in 2 hours.

    For dusting and cleaning the wool, they are paid Rs.5 per 8 hour shift.
22. Inspectorate of factories, Madras.
23. It is interesting to note that only 38 women (out of 1392 workers) were reported in Vaniyambadi, while 271 women (out of 3046 workers) were reported in Ambur. If the type of work that is done by women in Vaniyambadi is taken into account, the female work force will move up.
24. 95,86,800 sheep skins are tanned in Tamil Nadu since 90 per cent of 10.652 million E.I. sheep skins exported by India is from Tamil Nadu. (Source: LEPC, Madras). A woman can remove wool from 400 skins in 8 hours. AAssuming that there is only one shift per day, on the whole 23,967 woman days, are involved. On an average 66 women are employed per day. Doubling the employment, so as to allow to for cleaning the wool, we arrive at a figure of

132 woman workers on an average every day.
Regarding goat hair, let us assume that atleast 50 per cent of hair from goat skins are reclaimed. 81,51,300 goat skins are tanned in Tamil Nadu since 90 per cent of 9.057 million E.I. goat skins export goes from Tamil Nadu (Source : LEPC, Madras). Hair from 40,75,650 skins are reclaimed. With the same employment requirement as sheep skins, 56 women are employed for removing as well as cleaning the goat hair.
Totally 188 women are employed to remove sheep wool and goat hair, (Export data is for 1974-75).

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